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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,410	06/14/2002	Hermann Pirker	P/3240-65	5815
2352	7590	05/26/2004	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			ANDREWS, MELVYN J	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/009,410	Applicant(s) PIRKER, HERMANN	
	Examiner Melvyn J. Andrews	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2002.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
 4a) Of the above claim(s) 17-21 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-16 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 14 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, Claims 1-16 in Paper filed March 22, 2004 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 to 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "such as" on lines 9 to 13, lines 16 to 19, and lines 40 to 42 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Descriptions of examples "particular" on lines 25 and 26 and preferences on lines 15 and 16 and lines 20 to 24 are properly set forth in the specification rather than in a single claim MPEP 2173.05(c).

Claim 1 recites the limitation "iron-containing" in lines 25 and line 44. There is insufficient antecedent basis for this limitation in the claim because the source of iron is not clearly set forth in the claim. MPEP 2173.05 (e).

Claims 5, 7 and 10 are indefinite because preferences are properly set forth in the specification not claims.

Regarding claim 12, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim 4 recites the limitation "desulfurized" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 is indefinite because the composition of remainder materials (6) is not set forth.

Regarding claim 12, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim 13 recites the limitation "SO₂" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "ZnO" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 15, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 16 is indefinite because how the conditioned slag (30) is processed is not set forth for example how is "slag wood" formed.

Rejections - 35 USC § 103

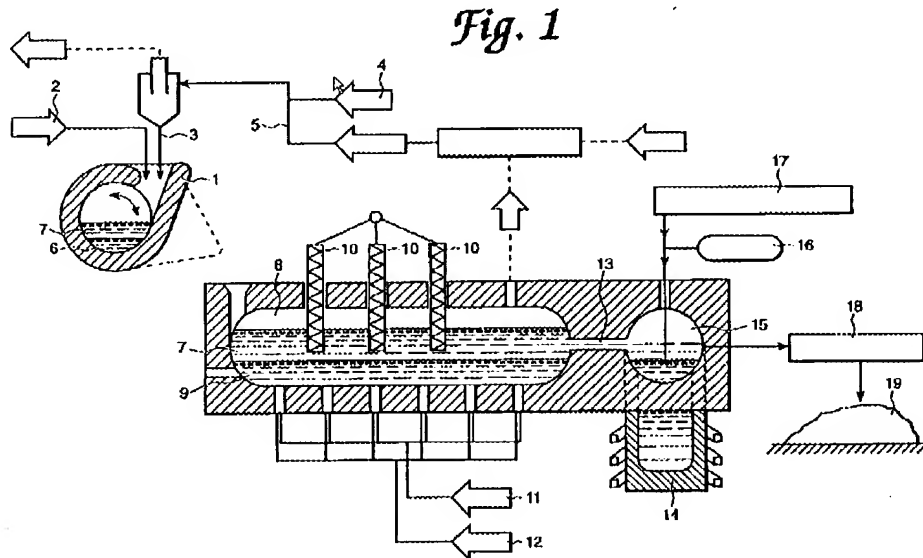
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edlinger et al (US 5,882,375). Edlinger et al discloses a process for the production of steel comprising mixing a basic steel slag with a blast furnace slag and dusts, reducing with a reducing agent such as coke removing ferroalloys and separating slag as shown in Fig.1 and claimed in Claim 26.



26. A process for the production of at least one member selected from the group consisting of hydraulic binders, crude steel, and alloys from basic steel slags containing at least one member selected from chromium and vanadium, said process comprising the steps of:

mixing a basic steel slag with at least one additive selected from the group consisting of blast furnace slag, electric arc furnace slag, dusts from steel production, metallic waste substances, refuse incineration residues, and acid additives for lowering the viscosity and forming a slag mixture,

affecting sedimentation of crude steel out of the slag mixture;

reducing the slag mixture that is remaining in a first reduction stage, with a first reducing agent comprising an iron bath and optionally one or more additives selected from the group consisting of coke, coal and synthesis gas so that an iron oxide content of greater than 1 and less than 5 wt % remains in the slag mixture and removing a metallic iron that is formed,

further reducing the slag mixture that is remaining, with a second reducing agent which has a higher reduction potential as compared to said first reducing agent, said second reducing agent being one or more members selected from the group consisting of calcium, aluminum, silicon and iron, in a second reduction stage and removing a metallic Cr or a metallic V or ferroalloys thereof that are formed,

separating a hydraulically active slag; and working up the hydraulically active slag to a hydraulic binder.

Edlinger et al discloses agitation of the iron bath (col.7, lines 8 to 18).

With respect to Claim 2 the apparatus from which the slag is tapped is not illustrated and the source of slag does not differ from the source of the Edlinger et al slag

With respect to Claim 3 the molten slag 2 is charged into the mixer.

With respect to Claim 4 Edlinger et al discloses bath electrodes which obviously supplies electrical energy.

With respect to Claim 4 Edlinger et al discloses sulfur predominantly present in sulfidic form (col.5, lines 33 to 35) which would obviously react with oxygen (col.7, line 2) to effect desulfurization.

With respect to Claim 6 "dust" (see Claim 26, line 19) is equivalent to "remainder material".

With respect to Claims 7 and 8 Edlinger et al discloses that carbon is blown in with inert gas (col.7, lines 51 to 59) which is equivalent to the steps of Claims 7 and 8.

With respect to Claim 9 the type of electrical heating such as "electrical resistance heating " is conventional.

With respect to Claim 10 the the depth of slag Edlinger et al shows in Fig. 1 "mixed slag 7 "which suggests the claimed height since similar slags are being treated to produce similar products such as steel.

With respect Claims 13 to 16 the further treatment of by-products is obviously considered to be convention since the specific steps need to produce "sulfuric acid, ZnO and slag wood are not claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is (571)272-1239. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mja
May 24, 2004

Melvyn Andrews
MELVYN ANDREWS
PRIMARY EXAMINER